

CLAIMS

1. An apparatus for cooling and positioning prismatic battery cells, comprising:
a prismatic battery cell with active material in a sealed pouch;
a cooling fin made of thermally conductive material with bent tabs;
a pair of terminal tabs that reach into said pouch to draw heat away from said
cell; and

5 railings along length of said cell whereby said cooling fin is attached to an
area of said cell bounded by said railings by said bent tabs.

- 10 2. The apparatus of claim 1 wherein said cooling fin further comprises
a flat area in direct contact with said cell; and
a corrugated area not in direct contact with said cell but in direct contact with
a coolant agent wherein heat moves from said cell to said flat area to said corrugated area to
said cooling agent.

- 15 3. The apparatus of claim 2 wherein said cooling fin is made out of copper.

4. The apparatus of claim 2 wherein said cooling fin is made out of aluminum.

- 20 5. The apparatus of claim 2 wherein said cooling agent is air.

6. The apparatus of claim 5 wherein said air is pumped.

7. The apparatus of claim 5 wherein said air is naturally flowing.

8. The apparatus of claim 2 wherein said cooling agent is liquid.

5 9. The apparatus of claim 2 wherein one or more of said cooling fins are
combined with one or more of said cells in an alternating geometry of fin-cell-fin-cell to
form a battery module.

10 10. The apparatus of claim 9 wherein said cooling fins are inserted among any

multiple number of cells.

11. The apparatus of claim 2 wherein said cell is an Lithium-ion Polymer Battery
(LiPB) cell.

15 12. The apparatus of claim 2 wherein said cell is kept in compression.

13. The apparatus of claim 2 wherein said cell is held in place by said cooling fin.

14. A method for cooling and positioning prismatic battery cells, comprising:
20 sealing active material of a primastic battery cell in a pouch;
attaching a cooling fin made of thermally conductive material to said cell; and
attaching a pair of terminal tabs that reach into said pouch to draw heat away
from said cell.

15. The method of claim 14 wherein said attaching a cooling fin further
comprises:
folding railings along length of said cell;
creating bent tabs in said cooling fin to attach said cooling fin to an area of
5 said cell bounded by said railings; and
sliding said cooling fin between said railings to fit around said area.
16. The method of claim 15 wherein said cooling fin further comprises:
a flat area in direct contact with said cell; and
10 a corrugated area not in direct contact with said cell but in direct contact with
a coolant agent whereby heat moves from said cell to said flat area to said corrugated area to
said cooling agent.
17. The method of claim 16 wherein said cooling fin is made out of copper.
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18. The method of claim 16 wherein said cooling fin is made out of aluminum.
19. The method of claim 16 wherein said cooling agent is air.
20. The method of claim 19 wherein said air is pumped.
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21. The method of claim 19 wherein said air is naturally flowing.

22. The method of claim 16 wherein said cooling agent is liquid.

23. The method of claim 16 wherein one or more of said cooling fins are
combined with one or more of said cells in an alteranting geometry of fin-cell-fin-cell to
5 form a battery module.

24. The method of claim 23 wherein said cooling fins are inserted among any
mutliple number of cells.

10 25. The method of claim 16 wherein said cell is an Lithium-ion Polymer Battery
(LiPB) cell.

26. The method of claim 16 wherein said cell is kept in compression.

15 27. The method of claim 16 wherein said cell is held in place by said cooling fin.